

Should the BLM Approve a Cobalt Mine?

This activity addresses the following essential question:

- How do public land managers balance tradeoffs as they make decisions about mineral mining projects?

Overview

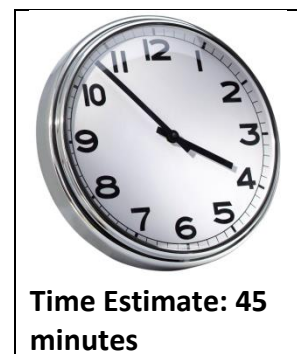
This activity introduces students to minerals development on public lands by encouraging them to grapple with the decisions that public land managers face when balancing the need for domestic sources of cobalt with preserving cultural resources, recreational sites, wildlife habitat, and scenic quality. The choice in the activity is whether to approve a cobalt mine on BLM-managed lands. Small groups of students examine the pros and cons of approving a mine and discuss how the BLM's multiple-use mission affects the balance among competing uses, such as heritage areas, paleontological resources, scenery, recreation tourism, and habitat for endangered birds.

Learning Objectives

Students will be able to 1) describe factors considered by planners when making public land use decisions; 2) take and defend positions on hypothetical and realistic land use planning questions; and 3) explain the costs and benefits of land use choices.

Teacher Preparation

1. Make a copy of the handout with pros and cons for each student.
2. Read the Background Information to become familiar with some of the choices that face public land managers and the diverse views about what they should do.



Background Information

BLM lands are managed for diverse uses, such as supplying natural resources (coal, natural gas, oil, renewable energy, minerals) and providing habitat for plants and animals. They also provide open spaces where people can enjoy recreation and learn about America's cultural and natural treasures through exploring fossils, ghost towns, and the remains of American Indian dwellings.

Public land managers must balance recreational, cultural, conservation, and economic values when deciding on a land use question, and they listen to diverse voices representing a wide range of interests. People who depend on the hospitality industry want to attract tourists and often recommend decisions that promote recreation. Outdoor enthusiasts who enjoy hiking in scenic areas, rock climbing, and mountain biking also usually want decisions to accommodate recreation.

Alternatively, tribal leaders, paleontologists, historic preservationists, and conservationists often speak for minimizing human impact on the land, even if that means limiting tourism and other economic activity. This view may be seconded by farmers, ranchers, and others in agriculture, who often depend on healthy plant communities to filter water and to support grazing animals and pollinators of food crops.

Many minerals mined on public lands, such as coal, uranium, and oil, are essential for our country's energy supply. Other minerals such as gravel and ores are used in making an array of products. Questions about how to preserve biodiversity, promote economic growth, maintain balanced habitats, attract visitors to the public lands, and ensure that future generations can enjoy cultural and recreational resources are knotty dilemmas for land use planners.

Cobalt Flats is the fictional parcel of land at the heart of this activity, but the issues and perspectives are representative of those faced by public land managers. It includes evidence of American Indian dwellings, is famous for backcountry recreation, hosts the endangered southwestern willow flycatcher, and is home to numerous dinosaur fossil finds. It would also be a good candidate for a cobalt mine.

It is essential that students understand there is no right answer for the dilemma in the activity. They should appreciate the tradeoffs that land managers face when weighing the pros and cons of choices that may partially satisfy most or all stakeholders but are certain not to fully satisfy everyone.

Procedure

1. Hook: Ask students to think about decisions made by young people that have long-lasting effects versus ones that do not. Ask for a show of hands for which of these choices do have long-term consequences: whether to go to a movie or stay in, whether to stay in school or drop out, whether to have pizza or salad, whether to take college preparation courses or not. Note that public officials like mayors and presidents are often called upon to make long-lasting decisions, including whether to open a new school or send the military

overseas. These are decisions about which many smart and sincere people may disagree, often making them difficult to resolve.

2. Introduction: Explain that public land managers make long-lasting decisions just as mayors and presidents do. They must consider the diverse views of many smart and sincere people before making decisions that can have consequences lasting decades or even centuries. Let students know they will get into small groups to look at and make choices about a land use issue just as public land managers would, considering various views and being aware that there is no one right answer.
3. Group instructions: Distribute the student handout to everyone, have them read the scenario, and explain that their job in the group is to choose an option by consensus. Divide students into groups of four or five and ask the groups to select someone to report out. Provide about 20 minutes for the groups to consider the arguments and decide whether to approve a cobalt mine. Answer any clarification questions they may have, emphasize that there is no right answer, and discourage them from introducing factors that are outside the context of the activity.
4. Report out: Ask the reporter from each group to report out the decisions they reached. Keep a tally to show which groups made which choices. Ask reporters to identify which arguments were most persuasive and why, as well as how difficult it was to decide. If any groups did not reach consensus, ask them why they were unable to. For those that did reach consensus, ask which variables were most important as they made the choice.
5. Conclusion: Reconfigure the class into one unit and ask for a show of hands for which factor was the most important: promoting economic development, protecting cultural and paleontological resources, accommodating recreation, preserving native heritage, or conserving habitat. Ask students to comment on which tradeoff was most difficult, and ask if anyone changed his or her view from the beginning to the end of the activity.

Assessment

Move among groups as they are discussing the cobalt mine issue and listen for whether students are on topic and respectfully discussing the tradeoffs.

Extension Ideas

Have students identify a land use issue in the community, research and gather information about it, and explore and debate possible solutions.

Invite a land manager to talk with students about a recent difficult land use decision he or she had to make.

Handout

Should the BLM Approve a Cobalt Mine?

Instructions

Read the scenario and pros and cons and discuss whether the BLM should approve an application to open a cobalt mine in Cobalt Flats, a fictional parcel of public land. Your group needs to agree on a decision, yes or no. Select a reporter for the group who will explain your group's choice to the rest of the class, including 1) your decision, 2) the main reasons you made that choice, 3) how difficult it was to decide, and 4) the key tradeoffs you discussed.

Scenario

The BLM's Cobalt Flats land managers have two options: approve an application to establish an underground cobalt mine, or reject the application. Cobalt is essential in powering cell phones, other consumer electronics, and even electric cars. The U.S. Geological Survey says cobalt is a critical mineral because it has "important uses and no viable substitutes, yet face(s) potential disruption in supply." If the U.S. does not mine its cobalt, companies will have to import cobalt from other countries, some of which use children as miners. Some groups oppose mining cobalt in Cobalt Flats because of the area's cultural and fossil resources, world-class recreational opportunities, and habitat for an endangered bird species. Other groups support the proposal for a mine to create jobs and secure a domestic source for cobalt.

Reasons to Approve the Cobalt Mine

Pros – Approving the cobalt mine would ...

- Bring many good-paying jobs into the community
- Provide a US-based source of a mineral that's needed in eco-friendly products like electric or hybrid cars, as well as cell phones and other electronics
- Allow US companies to be sure their cobalt is mined by adult miners who are paid and treated fairly, not by children who are exploited
- This excerpt from a CNN report (see <https://money.cnn.com/2016/01/18/technology/smartphone-child-labor-cobalt/index.html>) describes how children are abused as miners in some other countries:

Major tech companies could be buying electronic components made from minerals mined by children, according to a report from Amnesty International.

Researchers of the report found that dozens of firms, including Apple, Microsoft, and Samsung, may have links to at least one company which sources its cobalt supply to "artisanal" or subsistence mines in the Democratic Republic of Congo (DRC).

Cobalt is a key element used in lithium-ion batteries. Most consumer devices -- from smartphones and laptops, to self-balancing scooters and Tesla's home battery -- use this kind of power source. The DRC supplies much of the world's cobalt.

"We found that traders are buying cobalt without asking questions about how and where it was mined," Emmanuel Umpula said in a statement. Umpula is executive director of African Resources Watch, an NGO [non-government organization] that worked with Amnesty International on the report.

In April and May 2015, investigators from the two groups interviewed 87 people, including 17 children, who work or have worked in five artisanal mines.

They found children as young as 7 collecting, sorting and cleaning mineral ores for 10 to 24 hours straight. In the process, they expose themselves to particles that can lead to lung-related illnesses, and risk getting beaten or exploited financially.

"There is lots of dust, it is very easy to catch colds, and we hurt all over," a 15-year-old named Dany told researchers.

Reasons to Reject the Cobalt Mine

Cons – Approving the cobalt mine would ...

- Make the area less attractive to tourists and people who want to see awesome landscapes when they hike and bike, which would cost some jobs in the hospitality industry
- Threaten sites near recent discoveries of cultural artifacts showing how American Indians lived in the area in centuries past
- Threaten sites near where paleontologists have found significant new dinosaur fossils
- Potentially disrupt the habitat of the endangered southwestern willow flycatcher and of three species of trout that many anglers love to fish
- This excerpt from the website zionnational-park.com describes the birds in the area:

Numerous birds are found in the [area] including the endangered California Condor, Peregrine Falcon and the Southwestern Willow Flycatcher as well as the threatened Bald Eagle. Some of the species of birds ... that have been declining include the Burrowing Owl, Long-billed Curlew, Northern Goshawk, Blue Grosbeak Ferruginous and Swainson's Hawk.